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Press Release

CoreAVI Supports Safe Autonomous Systems Deployment

Autonomous Technology Enables Safe Solutions that Directly Interact with Humans

Tampa, Florida, February 16, 2022 – CoreAVI provides a safety critical implementation of their graphics and compute drivers to advance real-world deployment of autonomous systems across all vertical markets.

The new economic and social norms favor solutions with increased autonomous technology that interact directly with people. When it comes to the use of drones, collaborative robots, and driverless transportation systems, as well as in factories and warehouses, the obstacle becomes the safety of the technology. The challenge is to engineer complex, adaptable autonomous systems that can consistently operate safely.

The scale of the safety problem dramatically increases as engineers look to move from prototypes and small fleets to large-scale mass deployment. A lack of proven safety could prevent autonomous technologies from ever truly establishing themselves. The new autonomous world demands a fusion between traditional safety engineering and statistical approaches. Safety cannot be an afterthought added into an autonomous system but must be one of the fundamental design elements present from day one of development.

CoreAVI's Safety Critical Implementation of their Graphics and Compute Driver

CoreAVI has developed a safety critical graphics and compute driver called [VkCore® SC](#), which is aligned with the new Vulkan® SC API from the Khronos Group. VkCore SC is designed from the ground up for high performance and flexibility and offers the option for ISO 26262 ASIL D, RTCA DO-178C/EUROCAE ED-12C certification up to DAL A, and IEC 61508 SIL3 certification. The driver supports multiple GPU architectures allowing the developer to migrate their safety critical software stack seamlessly across different silicon implementations, dramatically increasing flexibility, scalability and reducing the overall total cost of ownership for safety systems. VkCore SC is the foundation of CoreAVI's Platforms for Safety Critical Applications, addressing the needs of any safe graphics and compute

applications across all market verticals.

VkCoreVX™ SC is CoreAVI's safety critical implementation of OpenVX™ 1.3, the Khronos Group's OpenVX industry standard API that provides a feature set for implementing and deploying neural networks in safety critical environments. It is the backbone of CoreAVI's artificial intelligence and computer vision platform for safe autonomy. It is built on top of CoreAVI's safety critical Vulkan SC implementation, providing both graphics and compute capabilities within the same safety critical framework. The computer vision subset provides algorithms for performing crucial pre-processing and post-processing tasks on the sensory data streams. This collection of algorithms and neural network inferencing engines provide a true safety certifiable software stack that facilitates powerful computer vision executing on modern GPUs.

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About CoreAVI (www.coreavi.com):

CoreAVI is the global leader in architecting and delivering safety critical graphics and compute software drivers and libraries, embedded 'system on chip' and discrete graphics processor components, and certifiable platform hardware IP. CoreAVI's comprehensive software suite enables development and deployment of complete safety critical solutions for automotive, industrial and aerospace applications requiring certification to the highest integrity levels coupled with full lifecycle support. CoreAVI's solutions support both graphics and compute applications including safe autonomy, machine vision and AI in the automotive, unmanned vehicle and industrial IoT markets, as well as commercial and military avionics systems.

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